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10/596,713	06/22/2006	Henning Wiemann	P18512-US1	9826
27045	7590	03/10/2010	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024			FIALKOWSKI, MICHAEL R	
			ART UNIT	PAPER NUMBER
			2466	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,713	Applicant(s) WIEMANN ET AL.	
	Examiner MICHAEL FIALKOWSKI	Art Unit 2466	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40,41,58 and 59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40,41,58 and 59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to amendments filed November 5, 2009. Claims 1-39, 42-57, 60-72 are cancelled and Claims 40, 41, 58 and 59 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al (EP 1249972 A1) in view of Hadi Salim et al (6,535,482) & Minhazuddin et al (2004/0073641).

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Re claim 40, Meyer et al discloses a method of controlling a queue buffer in a data unit transmission device, the queue buffer being arranged to queue data units in a queue and being connected to a link, the method comprising the steps of:

determining a value of a length parameter related to the length of the queue [0040],(in Meyer et al [X] refers to paragraph [X]);

comparing the value with a length threshold value [0042];

performing a congestion notification procedure with respect to one or more data units from the queue if the value is greater than the length threshold value [0042];

estimating, by an automatic threshold adaptation procedure, a link capacity value based on the data rate of the link and adapting the threshold value on the basis of the estimated link capacity value [0043] (uses estimate worst scenario time over link [0063]), wherein the automatic threshold adaptation procedure is operable in one of at least a first and a second adaptation mode (uses two thresholds [0062]), the first adaptation mode being associated with minimizing queuing delay and adapting the threshold value on the basis of $n \cdot LC$ (minimum threshold is calculated by setting equal to LC, therefore an arbitrary number of 1 could applied as n [0062]), where LC represents the estimated link capacity value and $n \geq 1$, and the second adaptation mode being associated with maximizing utilization and adapting the threshold value on the basis of $m \cdot LC$, where $m > 1$ and $m > n$ (max threshold can be calculated from LC times a constant epsilon which can be from 3-6, therefore greater than 1 and greater than the above constant [0066]), but does not explicitly disclose wherein the queue buffer is arranged for receiving data units from a sender that performs window-based

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flow control and divides its send window by k , $k > 1$, when receiving a congestion notification or when detecting data unit loss, wherein $n = k - 1$ and $m = k^2 - 1$. and the step of setting the first adaptation mode or the second adaptation mode manually by an operator.

However Hadi Salim et al teaches wherein the queue buffer is arranged for receiving data units from a sender that performs window-based flow control (TCP source reduces the window to control the flow [6,9-12] , herein [X,X] in Hadi Salim et al refers to [Column, Line(s)]) and divides its send window by k , $k > 1$, (source reacts by halving the congestion window (therefore an arbitrary k would equal 2 [col. 6, lines 39-42]) when receiving a congestion notification (ECN-notify set in the header means source knows there is congestion [col. 6, lines 39-42]) or when detecting data unit loss, wherein $n = k - 1$ and $m = k^2 - 1$ (if the arbitrary k is 2 as taught by Hadi Salim et al, then $n = 1$, as disclosed by Meyer et al above, and $m = 3$, as disclosed by Meyer et al above). It would have been obvious for one of ordinary skill in the art in the area of controlling congestion in a network to include window-based flow control as taught by Hadi Salim et al in the method of Meyer et al in order to handle transient congestion. Meyer et al modified by Hadi Salim et al does not explicitly disclose the step of setting the first adaptation mode or the second adaptation mode manually by an operator.

However Minhazuddin et al teaches the step of setting a first adaptation mode (normal state) or second adaptation mode (detailed monitoring state) manually by an operator (user) [0030]. It would have been obvious for one of ordinary skill at the time of the invention to set a first or second mode by an operator as taught by Minhazuddin

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et al in the method of the modified Meyer et al in order to change modes if the session quality falls below a certain level (Minhazuddin et al [0030]).

Re claim 41, Meyer et al discloses a method of controlling a queue buffer in a data unit transmission device, the queue buffer being arranged to queue data units in a queue and being connected to a link, the method comprising the steps of:

determining a value of a length parameter related to the length of the queue [0040]);
comparing the value with a length threshold value [0042];

performing a congestion notification procedure with respect to one or more data units from the queue if the value is greater than the length threshold value [0042];

estimating, by an automatic threshold adaptation procedure, a link capacity value based on the data rate of the link and adapting the threshold value on the basis of the estimated link capacity value [0043] (uses estimate worst scenario time over link [0063]), wherein the automatic threshold adaptation procedure is operable in one of at least a first and a second adaptation mode (uses two thresholds [0062]), the first adaptation mode being associated with minimizing queuing delay and adapting the threshold value on the basis of $n \cdot LC$ (minimum threshold is calculated by setting equal to LC, therefore an arbitrary number of 1 could applied as n [0062]), where LC represents the estimated link capacity value and $n \geq 1$, and the second adaptation mode being associated with maximizing utilization and adapting the threshold value on the basis of $m \cdot LC$, where $m > 1$ and $m > n$ (max threshold can be calculated from LC times a constant epsilon which can be from 3-6, therefore greater than 1 and greater than the above constant [0066]); but does not explicitly disclose wherein the queue

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buffer is arranged for receiving data units from a sender that performs window-based flow control and divides its send window by k , $k > 1$, when receiving a congestion notification or when detecting data unit loss, wherein $n = k - 1$ and $m = k^2 - 1$ and the step of automatically setting the first adaptation mode or the second adaptation mode using an automatic mode setting procedure.

However Hadi Salim et al teaches wherein the queue buffer is arranged for receiving data units from a sender that performs window-based flow control (TCP source reduces the window to control the flow [6,9-12]) and divides its send window by k , $k > 1$, (source reacts by halving the congestion window (therefore an arbitrary k would equal 2 [6,39-42]) when receiving a congestion notification (ECN-notify set in the header means source knows there is congestion [6,39-42]) or when detecting data unit loss, wherein $n = k - 1$ and $m = k^2 - 1$ (if the arbitrary k is 2 as taught by Hadi Salim et al, then $n = 1$, as disclosed by Meyer et al above, and $m = 3$, as disclosed by Meyer et al above). It would have been obvious for one of ordinary skill in the art in the area of controlling congestion in a network to include window-based flow control as taught by Hadi Salim et al in the method of Meyer et al in order to handle transient congestion. Meyer et al modified by Hadi Salim et al does not explicitly disclose the step of automatically setting the first adaptation mode or the second adaptation mode using an automatic mode setting procedure.

However, Minhazuddin et al teaches of setting the first adaptation mode (normal state) or the second adaptation mode (detailed monitoring state) using an automatic mode setting procedure (automatically) [0030]. It would have been obvious for one of

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ordinary skill at the time of the invention to set a first or second mode automatically as taught by Minhazuddin et al in the method of the modified Meyer et al in order to change modes if the session quality falls below a certain level (Minhazuddin et al [0030]).

3. Claims 58 and 59 rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al in view of Minhazuddin.

Re claim 58, Meyer et al discloses a queue buffer controller (unnamed but performs the functions of) for controlling a queue buffer [0036] in a data unit transmission device, the queue buffer being arranged to queue data units in a queue and being connected to a link, comprising:

a queue length determinator for determining a value of a length parameter related to the length of the queue [0040],

a comparator for comparing the value with a length threshold value [0042];

a congestion notifier for performing a congestion notification procedure if the value is greater than the length threshold value [0042]; and

a threshold adaptor for automatically adapting the length threshold value by estimating a link capacity value [0043] based on the data rate of the link and adapting the length threshold value on the basis of the estimated link capacity value (uses estimate worst scenario time over link [0063]), wherein the threshold adaptor is operable in one of at least a first and a second adaptation mode (uses two thresholds [0062]), the first adaptation mode being associated with minimizing queuing delay and adapting the threshold value on the basis of $n \cdot LC$ (minimum threshold is calculated by

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setting equal to LC, therefore an arbitrary number of 1 could applied as n [0062]), where LC represents the estimated link capacity value and $n \geq 1$, and the second adaptation mode being associated with maximizing utilization and adapting the threshold value on the basis of $m \cdot LC$, where $m > 1$ and $m > n$ (max threshold can be calculated from LC times a constant epsilon which can be from 3-6, therefore greater than 1 and greater than the above constant [0066]); but does not explicitly disclose the setting mechanism of the first adaptation mode or the second adaptation mode by an operator.

However Minhazuddin et al teaches the setting a first adaptation mode (normal state) or second adaptation mode (detailed monitoring state) manually by an operator (user) [0030]. It would have been obvious for one of ordinary skill at the time of the invention to set a first or second mode by an operator as taught by Minhazuddin et al in the controller of Meyer et al in order to change modes if the session quality falls below a certain level (Minhazuddin et al [0030]).

Re claim 59, Meyer et al discloses a queue buffer controller (unnamed but performs the functions of) for controlling a queue buffer [0036] in a data unit transmission device, the queue buffer being arranged to queue data units in a queue and being connected to a link, comprising:

a queue length determinator for determining a value of a length parameter related to the length of the queue [0040], a comparator for comparing the value with a length threshold value [0042];

a congestion notifier for performing a congestion notification procedure if the value is greater than the length threshold value [0042]; and

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a threshold adaptor for automatically adapting the length threshold value by estimating a link capacity value [0043] based on the data rate of the link and adapting the length threshold value on the basis of the estimated link capacity value (uses estimate worst scenario time over link [0063]), wherein the threshold adaptor is operable in one of at least a first and a second adaptation mode (uses two thresholds [0062]), the first adaptation mode being associated with minimizing queuing delay and adapting the threshold value on the basis of $n \cdot LC$ (minimum threshold is calculated by setting equal to LC , therefore an arbitrary number of 1 could applied as n [0062]), where LC represents the estimated link capacity value and $n \geq 1$, and the second adaptation mode being associated with maximizing utilization and adapting the threshold value on the basis of $m \cdot LC$, where $m > 1$ and $m > n$ (max threshold can be calculated from LC times a constant epsilon which can be from 3-6, therefore greater than 1 and greater than the above constant [0066]); but does not explicitly disclose the automatic mode setting mechanism for setting the first adaptation mode or the second adaptation mode automatically. However, Minhazuddin et al teaches of setting the first adaptation mode (normal state) or the second adaptation mode (detailed monitoring state) using an automatic mode setting (automatically) [0030]. It would have been obvious for one of ordinary skill at the time of the invention to set a first or second mode automatically as taught by Minhazuddin et al in the controller of Meyer et al in order to change modes if the session quality falls below a certain level (Minhazuddin et al [0030]).

Response to Arguments

4. Applicant's arguments with respect to claims 40,41,58 and 59 have been considered but are not persuasive.

Re claims 37 and 55, Applicant has stated that Meyer et al fails to disclose the element of :

wherein the automatic threshold adaptation procedure is operable in one of at least a first and a second adaptation mode, the first adaptation mode being associated with minimizing queuing delay and adapting the threshold value on the basis of $n \cdot LC$, where LC represents the estimated link capacity value and $n \geq 1$, and the second adaptation mode being associated with maximizing utilization and adapting the threshold value on the basis of $m \cdot LC$, where $m > 1$ and $m > n$.

Examiner respectfully disagrees. Meyer et al discloses wherein the automatic threshold adaptation procedure is operable in one of at least a first and a second adaptation mode. Examiner is interpreting this first and second adaptation mode as using two different thresholds which Meyer et al discloses in paragraph [0062]. Further, Meyer et al teaches the different "modes" accomplishing the same threshold calculations and outcomes as the claimed invention. Meyer et al discloses the first adaptation mode adapting the threshold value (in this case, using the minimum threshold) on the basis of $n \cdot LC$ (minimum threshold is calculated by setting equal to LC , therefore an arbitrary number of 1 could applied as n [0062]), where LC represents the estimated link capacity value (LC is calculated based on an estimated link capacity [0062]) and $n \geq 1$, and the second adaptation mode (in this case, using the maximum threshold) being adapted to the threshold value on the basis of $m \cdot LC$, where $m > 1$ and $m > n$ (max threshold can be calculated from LC times a constant epsilon which can be

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from 3-6, therefore greater than 1 and greater than the above constant [0066]).

Naturally, as Meyer et al discloses, when the QLav passes one of these thresholds, appropriate action is taken based on the threshold passed. Meyer thus discloses both of these first and second adaptation modes as disclosed on line 13 of Claim 40 (and similarly in Claims 41,58,and 59), "wherein the automatic threshold adaptation procedure is operable in one of at least a first and second adaptation mode".

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a mechanism for choosing the appropriate mode depending on additional conditions" [page 7], "the present invention adds another input parameter to the functions" [page 7], "one or more 'a length threshold values'" [page 8]) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant recites "Applicant is unable to map the elements of this second reference ([Hadi Salim et al]) to the present invention as place-keepers have been inserted for the reference pages and lines. (page 9)" As is pointed out in the rejection, references in Hadi Salim et al are made by **[Column, Line(s)]**. For example, in the rejection [6,39-42], would point to Column 6 & Lines 39-42 of text in Column 6. Further, the rejection with respect to Claim 40 is clarified to further include such a reminder as [col. 6, lines 39-42].

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL FIALKOWSKI whose telephone number is (571)270-5425. The examiner can normally be reached on Monday - Friday 10:30am-7pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571)272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. F./
Examiner, Art Unit 2466

/Daniel J. Ryman/
Supervisory Patent Examiner, Art Unit 2466